

REMARKS

The drawings are objected to.

Claims 1-11 are pending.

Claims 10-11 are withdrawn.

Claims 1-9 are rejected under 35 U.S.C. § 103(a).

Claims 7 and 9 are amended.

No new matter is added.

Claims 1-9 remain in the case for consideration.

Applicant requests reconsideration and allowance of the claims in light of the above amendments and following remarks.

Election/Restrictions

An Examiner Interview was conducted on April 10, 2006 between Gregg Palmer as a representative of the applicants and Examiner Rachel E Beveridge. During the interview, Mr. Palmer asserted that Ferguson does not teach applying a solder screen printing to a tap unit on a first or second side of a printed circuit board as set out in claim 1. Examiner Beveridge indicated that she would take this argument into consideration, but would wait until the replacement drawings arrived to fully consider it.

Election/Restrictions

Applicant's election without traverse of claims 1-9 in the reply filed on January 12, 2006 is acknowledged.

In the Specification

The specification has been amended to correct informalities and to improve the clarity of the disclosure. No new matter has been added. In particular, the following has been amended in the specification. 1) Page 3, line 17 has been amended to replace "both sides" with "the" for clarity purposes. 2) Page 3, lines 19-20 have been amended to replace "in a case of the both sides printed circuit board which is manufactured by SMT, first," with "when both sides of a printed circuit board undergo a SMT application, a" for clarity purposes. No new matter has been added.

In the Drawings

The informal drawings have been objected to as not being of sufficient quality to permit examination. The drawings have been replaced by replacement drawings sent in a letter to the official draftsman at the PTO on April 7, 2006. These replacement sheets have sufficient clarity to put the drawings in proper format to permit examination.

In the Claims

Claim Rejections – 35 U.S.C. § 103

Claims 1 and 4-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,394,609 to Ferguson et al. (“Ferguson”) in view of U.S. Patent No. 5,676,561 to Chiang (“Chiang”).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ferguson in view of Chiang and JP 62203669 A to Ishikawa (“Ishikawa”).

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ferguson in view of Chiang and U.S. Patent No. 5,489,804 to Pasch (“Pasch”).

Applicant respectfully traverses the rejections.

Claim 1 stands rejected under § 103(a) as obvious over Ferguson in view of Chiang. Claim 1 is directed to a method of manufacturing a printed circuit board that can be connected with a pin connector. The method comprises:

- applying a first solder screen printing to a tap unit on a first side of the printed circuit board;
- solidifying the first solder screen printing;
- applying a second solder screen printing to the tap unit on a second side of the printed circuit board; and
- solidifying the second solder screen printing.

In particular, claim 1 includes the limitations of applying a first solder screen printing *to a tap unit* on the first side of a printed circuit board and applying a second solder screen printing to the tap unit on a second side of the printed circuit board.

In contrast, neither Ferguson nor Chiang teach or otherwise suggest applying a first or second solder screen printing to a *tap unit* on a printed circuit board. The Office Action states that “Ferguson teaches selectively applying solder onto contact pads on the surfaces of each of the printed circuit boards (Ferguson, col. 6, lines 17-18) which include an interconnect (21) (Ferguson, col. 6, line 2).” However, while Ferguson may teach a printed circuit board with an interconnect (21), Ferguson does not teach or otherwise suggest that solder is applied to the first or second side of this interconnect. In fact it would make little or

no sense at all for solder to be applied to the interconnect (21) of Ferguson as the printed circuit board taught by Ferguson is a PCMCIA card (*See e.g.*, FIG. 1 and col. 5, lines 21-32), which uses the interconnect (21) to fit into a prescribed slot in a computing device. In other words, any solder formed on the interconnect of the PCMCIA card would only interfere with the pad fit and connection. Further, a PCMCIA card needs to be removable, as other cards or devices may need to be connected to the computing device through the slot at separate times.

In addition, Chiang merely teaches an edge card connector for temporarily retaining a circuit card (*See e.g.*, col. 1, lines 55-67, which discusses a clamp means for holding the card and an eject-and-latch unit for removing the card) and does not teach or otherwise disclose applying solder to a tap unit on a first or second side of a printed circuit board. Thus, because neither Ferguson nor Chiang teach all of the claim limitations of claim 1, alone or in combination, claim 1 is not obvious over these references and the rejection does not present a *prima facie* case of obviousness. As such, the Applicants submit that claim 1 is in proper form for allowance and respectfully request that the rejection under § 103(a) be removed.

Claims 2-9, which depend from claim 1, are also allowable for their dependency and their own merits. For example, claim 2 includes the limitations of inserting the pin connector into the tap unit after covering the tap unit in flux, and connecting the pin connector to the tap unit by performing high temperature reflow. The Office Action states that Ferguson can be combined with Chiang and Ishikawa to teach these limitations. The Applicants respectfully point out, however, that none of these references teach connecting a pin connector to a tap unit by performing high temperature reflow. The reflow taught by Ferguson is limited to a surface mounting technique for the *integrated circuit devices* that are to be mounted to the printed circuit board. Thus, there is neither an explicit teaching nor any suggestion of connecting a pin connector to a tap unit by performing high temperature reflow. For these reasons, the Applicants submit that claims 2-9 are likewise in proper form for allowance.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-9 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



Hosoon Lee
Reg. No. 56,737

MARGER JOHNSON & McCOLLOM, P.C.
210 SW Morrison Street, Suite 400
Portland, OR 97204
503-222-3613

Customer No. 20575